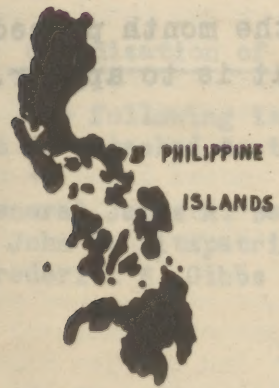




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*Circ. M. Sect. Far East Command,*  
*1947, No. 6,*

CIRCULAR NUMBER 6

MEDICAL SECTION

GHQ FEC



Articles for Publication in Circular

It is desired that the Monthly Circular Letter published by the Medical Section GHQ, FEC be of maximum value to all of the Medical Department personnel in the field. To that end, articles of professional or administrative nature that might be of general interest are needed. All Medical Department officers as well as the Commanding Officers of Medical Department units and the Surgeons of the major commands are solicited for articles of administrative or technical value. Such articles should be forwarded so as to reach the Medical Section, FEC, not later than the 20th of the month preceding the publication of the circular in which it is to appear.

CIRCULAR NUMBER  
MEDICAL SECTION  
GHQ FEC





**GENERAL HEADQUARTERS  
FAR EAST COMMAND  
MEDICAL SECTION**

**CIRCULAR LETTER )  
: NO . . . . . 6 )**

**APO 500  
1 June 1947**

**Part I**

<u><b>SUBJECT</b></u>	<u><b>ADMINISTRATIVE</b></u>	<u><b>SECTION</b></u>
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**I. Organization of the Medical Section**

The following is a list of commissioned personnel currently assigned or attached to the Medical Section:

Brig. General James A. Bethea	Surgeon
Colonel John C. Fitzpatrick	Deputy Surgeon
Major Frederick H. Gibbs	Executive Officer

**ADMINISTRATIVE BRANCH**

Major Frederick H. Gibbs	Chief
Lt. Edwin W. Payne	Assistant

**PLANS AND OPERATIONS BRANCH**

Colonel John C. Fitzpatrick	Director
Major Frederick H. Gibbs	Deputy Director
Major John V. Painter	Chief, Supply and Fiscal Branch
Captain Robert E. Watson	Supply and Fiscal Branch
Captain Felix G. Rajacki	Chief, Plans and Operations Branch
Captain Glorio J. Patsy	Plans and Operations Branch
Lt. T. J. Shelton	Plans and Operations Branch

**PERSONNEL DIVISION**

Lt. Colonel Lewis C. Shellenberger	Director
------------------------------------	----------



Lt. Colonel Wilfred A. Emond  
Major Sam A. Plemmons

Personnel Division  
Deputy Director

### CONSULTANTS

Colonel Charles K. Berle  
Colonel Stanley C. Smock  
Colonel George N. Schuhmann  
Lt. Colonel Warner F. Bowers  
Lt. Colonel Ruby F. Bryant  
Lt. Colonel Lewis C. Shellenberger  
Lt. Colonel Kenneth C. DeGon  
Major Kermit E. Jones

Medical Consultant  
Veterinary Consultant  
Preventive Medicine Consultant  
Surgical Consultant  
Nursing Consultant  
Medical Consultant  
Dental Consultant (Acting)  
Preventive Medicine

### II. Japanese B Encephalitis

TB MED 181, Subject: Japanese B Encephalitis has recently been revised. The latest edition is dated 6 April 1947 and contains the most recent information available on this subject. It should be made available to all medical officers. Information from the AG Depot indicates the new bulletin will arrive in this theater about 1 June 1947 and distribution will be made shortly thereafter.

### III. Streptomycin

Section XII, Circular 99, War Department, 17 April 1947, is quoted for your information and guidance: "Streptomycin, 1 Gm (Medical item 1609840). The dating period for Streptomycin, 1 Gm (Medical item 1609840), has been extended for a period not to exceed 3 months from date of expiration as stated on the package, providing the item has been stored under proper conditions of approximately 22° C. (Approximately 70° - 75° F)."

### IV. Shock Therapy

Attention is invited to paragraph 5e, (1), (2), TB MED 84, 20 February 1947, quoted below for your information and guidance:

"e. Shock Therapy. Convulsive (electric and metrazol) and deep coma (insulin) shock is an accepted form of treatment for selected cases of psychoses. It is not to be used for psychoneuroses. The use of shock therapy will be governed by the following factors:

(1) This treatment will be given ordinarily only in those hospitals specially designated for the care and treatment of closed-ward psychiatric patients. Other hospitals may employ shock therapy upon the approval of The Surgeon General, or in oversea theaters, upon the approval of the theater surgeon.

(2) The treatment will be given only by or under the direct supervision of a qualified neuropsychiatrist experienced in the form of treatment used, whose qualifications will be approved by the commanding



officer of the hospital."

The Surgeon's Office, Far East Command has not been approached for approval for shock therapy by a hospital in the Far East Command. Therefore, as yet no approval for such treatment in any hospital of the Far East Command has been granted.

V. Handling of Perishable Subsistence Overseas - Earl G. Kingdon,  
Major, V.C., XXIV Corps Veterinarian

The handling of perishable subsistence overseas differs only slightly from the same procedure in the ZI. Equipment and storage space overseas are usually neither as suitable nor as plentiful as in the ZE, yet the same standards of sanitation must be maintained and the foods must be handled expeditiously until consumed. Positive action must be taken to correct conditions which may cause loss of food items due to contamination or decomposition. In the absence of a Veterinary Corps officer, food inspection is the direct responsibility of the Unit Surgeon, therefore, all Medical Corps officers must become familiar with the basic principles of handling and inspecting foods. When neither a VC nor a MC officer is available, the unit commander is solely responsible for food inspections.

The Army is successfully pioneering in shipping fresh perishables on a large scale, 5,000 miles to this theater. This has never been done on such a scale before. Usually the foods arrive in good to excellent condition. However, subsequent to arrival at the ports, major losses have resulted because of rough handling during loading and unloading, improper storage, and improper supervision.

Proper selection of foods either for storage or further shipment is of primary importance. Foods found deteriorated upon arrival must be sorted immediately and only sound items shipped further or stored. Trimming may be resorted to, or items showing beginning deterioration may be issued for immediate use of nearby troops. Decomposition, once begun, progresses rapidly under both storage and shipping conditions. Broken boxes must be used locally or be recovered before shipment as they permit contamination of the contents and allow frozen items to thaw faster.

Upon receipt of perishables at the messhall, they should be immediately intelligently sorted and trimmed, and only sound items held for future use. Removal of deteriorated leaves or pieces of fruit will materially increase the life of the balance of the shipment. There is evidence that many boxes, and even entire issues of fruits and vegetables have been blindly thrown on garbage dumps because of brown, decomposed outer leaves, surface mold, or some rot in fruit when actually 60% or more of the issue was sound. Commercially, trimming and sorting never ends, and often only one-third or less of a given quantity of produce is ultimately sold. As little as 20% salvaged is well worth the effort expended.

Perishable foods must be handled expeditiously, and should not



be out of refrigeration any longer than is necessary for actual loading and transportation. Trucks used should have either a top or a tarpaulin in use to protect the cargo from the sun, rain, and dust. Inspectors must ensure that this is done. Moisture on either food or containers causes all foods to become moldy in storage and decompose faster. Rain causes thawing almost as quickly as the sun will. Loading and unloading should be done under cover during hot or wet weather.

Proper temperatures must be maintained at all times. Chill items (fresh vegetables and eggs) should be transported and stored at 30 to 34 degrees F, and frozen items at 10 degrees F or less. Higher temperatures materially shorten the life of the products. Frozen milk kept higher than 15 degrees F, has obnoxious qualities when thawed even though it has been kept frozen solid. Frozen products which have been partially or completely thawed must never be re-frozen. Potatoes and onions (and carrots for about a week) may be kept in a cool, well ventilated place, if properly stacked with stripping.

The same factors apply to stowing of all refrigerated space -- a small 125 cu. ft. box, a reefer car, or a ship's hold. Adequate circulation of air must be provided for. Floor racks and wall racks must be used to hold the contents 4" to 6" from floors and walls. Chill items must not be stacked higher than 24" from the ceiling, but items frozen solid may go to 6" from the ceiling. Blower outlets (fans) must never be obstructed. Chill items must be stripped, i.e., narrow strips of wood (dunnage), placed between layers to provide for circulation. Items frozen solid need not be stripped if 10 degree temperatures or less are maintained. Frozen and chill items should be stored in separate refrigerators.

The use of common sense in handling food shipments will eliminate most poor arrival conditions of perishables. The inspector must be continuously on the alert not only to see that foods are stowed in properly refrigerated space but also to ensure that food is handled as food should be handled -- carefully and expeditiously, and not as though it were pig-iron. When handling fragile items in thin wooden boxes (e.g. eggs, citrus fruits, apples) extra care must be used. Damage to the box causes not only immediate direct loss in that box, but also future loss from mold in contiguous boxes due to contamination by fruit juices and egg contents from the damaged pieces. Broken or damaged crates are usually caused by carelessness. Eggs must always be handled with top-side up as indicated by the stenciling on each case. Foods should not be shipped unless they can be used at their destination. Where conflict exists between military necessity and proper conditions of handling, then of course military necessity takes precedence. However, the inspector must ensure that maximum possible care is given to the food.

In conclusion, it can be definitely stated that the officer making food inspections occupies a vitally important position in the supply line. He protects the health of the command and prevents monetary loss to the government. He also is in a position to either improve or to adversely affect the morale of the command. By doing an



intelligent, conscientious job, the food inspector can make the occupation more certain of success.

#### VI. Recent War Department and FEC Publications

The following directives were received by the Medical Section during the month of May:

1. Change 4, AR 40-210, 2 April 1947, Prevention and Control of Communicable Disease in Man.
2. Circular No. 277, War Department, 12 September 1946, Section III, Venereal Disease (Policy for Press Releases)
3. Circular No. 85, War Department, 31 March 1947, Section V, Rescinds all War Department Circulars dated prior to 1 January 1945.
4. Circular No. 91, War Department, 8 April 1947, Section I, Neuropsychiatric Service; Section III, Penicillin.
5. Circular No. 96, War Department, 14 April 1947, Insect Control.
6. Circular No. 99, War Department, 17 April 1947, Section XII, Streptomycin; Section XIII, Training Film.
7. Circular No. 104, War Department, 24 April 1947, Section II, Bulletin of the United States Army Medical Department (Rescinds Section I, War Department Circular 33, 1947)
8. Memorandum No. 40-1005-2, War Department, 18 April 1947, Reactions Following the Administration of Certain Parenteral Solutions.
9. Circular No. 41, General Headquarters, Far East Command, 17 April 1947, Venereal Disease Control.
10. TB MED 181, 6 April 1947, Japanese B Encephalitis. (This bulletin supersedes TB MED 181, July 1945)

#### VII. Medical Records

War Department Radio WCL 43791, dated 6 May 1947 is quoted for your information: "Attention is invited to Paragraph 2 B (5), (E), AR 40-590. This paragraph is authorized for furnishing Medical Records of civilian employees of War Department contractors hospitalized in Army hospitals outside continental limits of United States to representatives of insurance carriers on such contracts."

#### VIII. Army Nurse Corps and Women's Medical Specialist Corps

Public Law 36, 80th Congress, created in the Medical Department of the Regular Army, the Army Nurse Corps with a minimum authorized total of 2,558 officers and the Women's Medical Specialist Corps with a



total authorization minimum strength of 409 officers as follows: Dietitian Section - 159, Physical Therapist Section - 136, Occupational Therapist Section - 114.

The War Department has issued implementing instructions in War Department Circular 113, dated 3 May 1947, which sets forth details for appointment of female officers into the new corps. Provisions of the new law make possible an attractive and remunerative career for professional women serving with the Medical Department.

Since the authorized strengths for the Army Nurse Corps and Women's Medical Specialist Corps are based upon an army that will be of less size than the interim army, it is expected that nurses currently on duty who may not be eligible for, or desirous of a permanent commission will be continued on active duty for sometime.

Pertinent information regarding provisions of the new law are:

(a) Pay and allowances for members of the new corps will be the same as for all other commissioned officers. The base pay for officers in the grade of second lieutenant, first lieutenant and captain, with less than three years of service, is \$180, \$200, and \$230 per month, respectively, with five per cent increase of base pay for each three years of service, plus \$.70 per diem for subsistence. Dietitians, physical therapists and occupational therapists assigned to hospitals for duty are usually provided quarters. When quarters are not available, the money allowance for rental of quarters is the same as for other officers.

(b) Retirement - An officer on the active list of either Army Nurse Corps or the Women's Medical Specialist Corps, Regular Army may elect to retire after 20 years of service regardless of age and receive  $2\frac{1}{2}$  per cent of her base and longevity pay for each year served, or the officer may be retired at the age of 50 if in the grade of captain or below, or at the age of 55 if in the grade of major. Retirement pay would likewise be at the rate of  $2\frac{1}{2}$  per cent for each year served.

(c) Term of service - Officers integrated would be commissioned for life. However, an officer would have the same privileges of submitting resignation as other officers in accordance with provisions approved by the Secretary of War.

(d) Educational Opportunities - It is expected that post-graduate professional training will be made available to a limited number of officers according to the availability of funds and personnel.

Appointments will be tendered in increments throughout the balance of 1947 and the first commissions are expected to be given about the end of June to members of the prewar Army Nurse Corps. Applicants from this category should submit their applications, in duplicate, direct to The Adjutant General, Attention AGSO-R, Washington 25, D. C. This group will not be required to pass integration tests and will be tendered commissions subject to being physically qualified at time of appointment.



All other applicants must submit applications through command channels and will be ordered by the commanding officers of the appropriate screening center to appear thereat for examination, integration testing and for an interview by board of officers.

Appointments will be initially made in grades of second lieutenant, first lieutenant and captain dependent upon a service credit of less than 3 years, 3 to 10 years, and 10 years and over, respectively.

Constructive service will be computed on the number of years, months and days by which the applicant's age on date of appointment exceeds 25 years. If the applicant has a period of active service with the Army since 7 December 1941 which is larger than the constructive service, she will be given credit for the larger period, but would not be given credit for both constructive service and active service.

The age of applicants will be 21 - 34 (inclusive) years for nurses, and 21 - 44 (inclusive) years for Women's Medical Specialist Corps applicants, although the upper age limit in the Women's Medical Specialist Corps may be waived in exceptional cases by the Secretary of War upon recommendation of The Surgeon General.

Technical specialists will be appointed in the Army Nurse Corps not in excess of 30% of the total number of nurses integrated and these specialists will be Administrative Nurses, Anesthetists, Operating Room Supervisors and Neuropsychiatric Nurses.

Screening Centers are being established so as to be in operation for the period of 30 June to 30 September and will be located as follows:

49th General Hospital	Tokyo
28th General Hospital	Osaka
34th General Hospital	Seoul, Korea
10th General Hospital	Manila, P.I.
37th Station Hospital	Okinawa
22nd Station Hospital	Guam.

When Screening Centers begin operation, the following functions will be performed at each:

(a) Officer Interview Boards will be appointed by the Commanding Officer of each Screening Center and will consist of three (3) Regular Army Officers (one of whom may be a line officer), two (2) nurses, or one (1) nurse and one (1) dietitian, physical therapist or occupational therapist (depending on the section of the Women's Medical Service Corps for which applicant is applying). The majority of the Board members must



be senior in permanent grade to the prospective Regular Army permanent grade of the particular applicant interviewed. Screening Center commanders designated by the War Department and Theater Commanders will be responsible for the testing of applicants as follows:

- (1) Scheduling appearance of applicants for testing and advising applicants of testing date.
- (2) Reviewing application by personal interview with the applicant in order that errors in preparation may be adjusted.
- (3) Physical Examination.
- (4) Administering the biographical information blank.
- (5) Administering the appropriate technical tests.
- (6) Interview by Officer Interview Board.
- (7) Transmission of the above completed papers by registered official mail to The Adjutant General.

Application forms are being distributed to major subordinate commands by GHQ and an initial supply of testing material will be furnished each Screening Center by this headquarters.



## PART II

<u>SUBJECT</u>	<u>TECHNICAL</u>	<u>SECTION</u>
Scabies . . . . .		IX
Reactions Following the Administration of Certain Parenteral . .		
Solutions . . . . .		X
Theater Laboratory Service, Part III. . . . .		XI
Japanese X-Ray Film . . . . .		XII



### IX. Scabies

Attention is invited to the method of control and treatment of scabies suggested in WD MEMO 40-46, 9 January 1946. In addition to the Medical Department item No. 1,100,100 prescribed in the above Memo, QM Item No. 51-I-310 has also proved equally efficacious and may be used as a substitute. It should be noted that the Medical Department item is diluted one part emulsion to three parts of water, whereas the QM item is diluted one part concentrate to five parts water.

### X. Reactions Following the Administration of Certain Parenteral Solutions

The following paragraphs are quoted from Memorandum No. 40-1005-2, War Department, 18 April 1947, Subject: "Reactions Following the Administration of Certain Parenteral Solutions".

"1. Reports have been received in the Office of The Surgeon General from several areas, of reactions following the administration of certain parenteral solutions. The items in question are as follows:

<u>Item No.</u>	<u>Nomenclature</u>	<u>Unit</u>
1164600	Dextrose Injection, 5%, 1000 cc, 6s	Box
1165000	Dextrose and Sodium Chloride Injection, 1000 cc, 6s	Box
11429500	Sodium Chloride Isotonic Solution, 1000 cc, 6s	Box
11491000	Water, distilled, 1000 cc	Bottle
11491700	Water, distilled, 25, 50 cc ampules	Box
11491720	Water for Injection, 1000 cc, 6s	Box
1731500	Dextrose, 50% Solution, 50 cc	Bottle

2. The storage life of the above solution is limited by the corrosive



action of the solution upon the glass container and mechanical faults in the rubber closure which may be present in a small number, initially, or which may develop upon aging. The corrosion of the glass surface in the container results in eventual contamination of the solution with atmospheric micro-organisms, which is usually indicated by the presence of readily visible mold growth or turbidity.

3. It has been observed that the appearance of a significant percentage of deterioration in the above solutions occurs following prolonged storage. Storage under tropical conditions accelerates the deterioration. An investigation is under way to determine the age and status of deterioration of depot stocks, in order to eliminate, to the greatest practicable extent, the possibility of issue of deteriorated solutions.

4. Since deterioration may occur while in station stock storage, and since even fresh solutions may occasionally be contaminated because of accidental mechanical faults in the closures it is desired that station supply officers inspect solutions for turbidity, prior to issue. Solutions for parenteral use must be clear and free from turbidity or undissolved material. This turbidity or undissolved material should be detected without magnification when the solution is examined against black and white backgrounds using a bright light reflected from a 100-watt Mazda lamp or its equivalent. All solutions should be examined in this manner at stations prior to issue. Solutions on which lot number and dating have been obliterated from the container must not be issued for parenteral injection.

5. To further insure a clear solution and avoid reactions, inspection by reflected light should again be made immediately before administration. Gentle swirling or careful inversion of the container may be necessary to bring particles within the field of vision. Fine air bubbles, which may be entrained during manipulation, may be recognized by the spherical or oval shape and movement toward the surface. Solutions showing evidence of contamination must be discarded.

6. It is desired that all medical installations submit a complete report on "Adverse Reactions of Parenteral Solutions" in letter form to The Surgeon General (Report Control Symbol MED-39) immediately after occurrence of adverse reactions following administration of any of the above items. These reports will contain information as to item, lot number, manufacturer, and dating."

#### XI. Theater Laboratory Service, Part III

This is the last of three installments of an article prepared by Lt. Colonel W. D. Tigertt.

##### Bacteriology:

— Stool Cultures for Typhoid and Dysentery Organisms: All hospital laboratories should perform the initial cultures on stools from patients in which it is anticipated that members of the typhoid-dysentery



group can be isolated.

The following procedure for the performance of these initial cultures has been designed primarily for the use of those units who either because of lack of personnel or equipment are unable to maintain a complete bacteriological laboratory. The media and reagents required (with medical supply catalogue numbers) are shown below.

1. Bile Glycerol Peptone Media.

Bacto Ox gall	(1102000)	100 gm.
Glycerine	(1218000)	100 gm.
Peptone	(1330900)	20 gm.
H <sub>2</sub> O	(1332000)	1000 cc.

Dissolve in H<sub>2</sub>O. Filter through cotton-gauze, Sterilize at 15 pounds for 15 minutes.

2. Salmonella-Shigella Agar (S.S. agar #1452800). Directions for preparation are included on the container. This medium must not be overheated. The solution should be brought just below the boiling point and then dispensed in 20 c.c. amounts in sterile petri dishes.

3. Desoxycholate Citrate Medium (D.C. agar #1161700). Prepared using the same technique as described for S.S. agar.

4. Eosin Methylene Blue agar (E.M.B. #1174000). This medium is prepared as indicated on the container and is autoclaved in suitable stock quantities. Plates may be poured as needed. Note: Do not substitute Levine's Eosin M.B. agar. It should be used for water analysis only.

5. Combined Krumweide triple-sugar and Kligler's iron agar (K.K.I.). This is prepared by adding 10 grams of sucrose (#1398000) to each liter of Kligler's iron agar (#1241700) solution after preparation of the media as directed on the container. Dispense in Kahn tubes (44364000). Allow to harden in a slanting position so as to make a deep butt.

6. Simmon's Citrate Agar (S.C. #11142400) prepared as directed on the container. Dispense in Kahn tubes (#4426400). Allow to harden in a slanting position as to make a deep butt.

7. Tryptone Broth - Make a 2% solution using #1489200 in distilled water. Dissolve by heating and stirring. Autoclave for fifteen minutes at fifteen pounds.

8. Urease reagent.

Urea	(#1490000)	2.0 gms.
KH <sub>2</sub> PO <sub>4</sub>	(#1375000)	0.1 gms.
K <sub>2</sub> HOP	(#1374000)	0.1 gms.
	or	
Na <sub>2</sub> HOP	(#1144000)	



NaCl	(#1429000)	0.5 gms.
C <sub>2</sub> H <sub>5</sub> OH(95%)	(#1048000)	1.0 c.c.
H <sub>2</sub> O		99.0 c.c.

9. Indol reagent - Dissolve 5 Grams of paradimethyl-amino benzaldehyde (#1325700) in 75 cc. of amyl alcohol (#1049700) and add 25 cc. of hydrochloric acid.

Method - A microscopic examination of the feces is of definite value in all cases and is absolutely required if cholera is to be eliminated. It is important to note the presence or absence of pus and blood in stools from which an attempt has to be made to isolate enteric pathogens. If the stool contains frank pus or pus and blood approximately 1 c.c. is inoculated into 10 c.c. of Bile Glycerol Peptone Medium and swab streakings are made on plates of S.S. (and/or D.C.) medium and E.M.B. medium. Other stools should be examined for any flecks of mucous and a total volume of 2 c.c. inoculated into 10 c.c. of the Bile Glycerol Peptone Medium and swab streakings made as indicated above.

After twenty-four hours incubation examine the plates for colorless colonies or for faint pink colonies, and for opaque colonies on the E.M.B. If such colonies are not observed the plating procedure should be repeated, using the material which has been inoculated into the Bile Glycerol Peptone Medium. These new plates should be examined after twenty-four hours incubation and if at this time no suggestive colonies are noted a report of "negative for typhoid, para-typhoid, and dysentery group" is made.

If colorless or faint pink colonies are noted (or opaque colonies are noted) on E.M.B. plates after twenty-four hours such colonies should be picked to a tube of K.K.I. agar and to a tube of Simmon's Citrate agar.

a. To inoculate the K.K.I. tube place inoculum ( $\frac{1}{2}$  of colony) at base of K.K.I. slant, using a platinum wire, smear with circular motion, then by a series of contiguous lateral strokes work the inoculating wire upward to the upper end of the slant. Next take the wire back to the base of the slant and stab directly downward into the medium, making the stab line as near the center of the cylinder as possible.

b. In inoculating the Citrate tube it is necessary only to streak the surface.

The tubes inoculated as above are incubated for twenty-four hours and their reactions observed. It is a common practice to write such reactions as follows: A/AG, A/A - or A/AG, H<sub>2</sub>S  $\pm$  or -/A-. In such cases "A" stands for acid (yellow change). The bar represents the division between the slant and the medium (left) and the butt (right). "AG" stands for acid and gas. "A" stands for acid. "-" means no reaction. Any reaction on the slant is a reaction with lactose or sucrose. Any reaction in the butt (to the right of the bar line) is a reaction with dextrose. A blackening of the medium is an indication that hydrogen sulfide has been produced. For a detailed explanation of the biochemistry of these media, see the Difco Manual, Difco Laboratories, Detroit.



Any organisms which after twenty-four hours incubation produce no change in the color of the surface of the K.K.I. medium but show alteration of any type in the butt should be treated as follows:

- a. A smear is made to check for purity of culture. If culture is pure,
- b. A sub-culture is made to a new slant using the technique indicated above. Place 0.2 c.c. of Urease reagent in a small test tube and add a generous loop of the bacteria from the K.K.I. medium to the tube. After two hours incubation observe for a color change from pinkish orange to purple. This reaction results from the split of the urea by the organisms with the resultant release of ammonia. Most members of the genus *Proteus* give this reaction.
- c. Next the original K.K.I. is over-laid with 2% tryptone and incubated for two hours. A loop (loop is 2 mm in diameter) of this tryptone broth culture is examined microscopically for motility.
- d. The remaining broth is incubated for two hours at 37°C and is tested for Indol with Indol Reagent. A positive test is indicated by a change in color of the reagent from brown to red.
- e. Check the reaction on Simmon's Citrate agar. Utilization of the citrate by the test organisms is indicated by a heavy translucent or milky growth and a change in color of the medium to blue.

Organisms which do not ferment sucrose and lactose and which produce acid and gas (AG) from dextrose and are Urease and Indol negative probably belong to the genus *Salmonella*. Organisms which do not utilize sucrose and lactose produce acid but no gas in the butt, do not produce hydrogen sulfide or non-motile and which are citrate negative probably belong to the genus *Shigella*. Organisms giving these same reactions but which are motile (and may also produce hydrogen sulfide) probably belong to the genus *Eberthella*. The reactions shown in Group IV are sufficiently significant to demand further study to rule out *Vibrio comma*.

#### TABLE OF 24 HOUR READINGS

Group I			Group II		
	Slant	Butt		Slant	Butt
K.K.I.	-	/ AG	K.K.I.	-	/ A- H <sub>2</sub> S
Citrates	+	or -	Citrate	-	
Urease	-		Motility	-	
Indol	-		Indol	+	-
Gram negative	<u>uniform rods</u>		Gram negative	<u>uniform rods</u>	



SalmonellaShigellaParacolon GroupFew Proteus Strains

## Group III

## Group IV

	Slant	Butt		Slant	Butt
K.K.I.	-	/ A- H <sub>2</sub> S <sup>+</sup>	K.K.I.	A	/ A- H <sub>2</sub> S-
Citrate	-		Citrate	+	or -
Motility	+		Motility	+	
Indol	-		Urease	-	
Gram negative <u>uniform</u> rods			Indol	-	or +
<u>Salmonella typhi</u> (E. typhosa)			Gram negative pleomorphic comma-shaped rods		
Other atypical Salmonellae			Suggestive of <u>Vibrio comma</u> group		

The reactions given for the first three groups are peculiar to most of the enteric pathogens when the readings are taken at 24 hours on K.K.I. An exception is Shigella Sonne, which slowly ferment lactose and sucrose, thereby giving an acid reaction on the slant. This reaction is very slow and there is usually no appreciable change on the slant in twenty-four hours. Any combination of reactions not falling into one of the above first three categories can be taken as the basis for a report "negative for organisms of the typhoid, para-typhoid, dysentery group". Each laboratory performing these tests should maintain stock cultures of representative organisms of each group and routinely check all media and reagents used. Such stock cultures may be obtained by requisition from a medical general laboratory.

If the laboratory has sufficient personnel and equipment further identification should be attempted by means of agglutinating sera and additional biochemical reactions. The culture should be forwarded for final identification on K.K.I. to a medical general laboratory. (Par. 2 f, AR 40-310).

Transmission of Stool Specimens for Culture: Those medical installations unable to culture stools when necessary, may submit the stools directly to a medical general laboratory. If the specimens show frank pus and blood, 10 c.c. of it placed in 20 c.c. screw cap vial. To this sample is added an equal volume of Formalin 1/10,000 in 0.85% salt solution. This vial is then forwarded as promptly as possible. In the case of mushy or formed stools, as near to 10 c.c. of mucoid material as can be "fished" out is



placed in a 20 c.c. vial and an equal volume of formol-saline solution added.

#### Collection of Material for Culture From the Throat:

All smears and cultures are taken with a swab. In taking the cultures a careful inspection of the patient's throat is first made. If the patient possesses tonsils, it is often helpful to force him to "gag" by applying pressure to the tongue. This affords an easy means of viewing the posterior surface of the pillars.

The visual findings in the throat dictate one or two approaches as the next step:

(1) If the throat exhibits no membranous material, is merely injected or injected and swollen, the affected area is carefully swabbed to secure a random sampling of the bacterial population. This same action is repeated with a second swab. Material from the first swab is used for smearing; material from the second for culturing.

(2) If the throat exhibits exudate or "membranous" areas, a first swab is used for testing the tenacity of the exudate. If the exudate "comes off" easily it is spun onto the swab by a quick twirling of the applicator stick between the thumb and forefinger. This first swab is used for smear purposes. The cleaned surface of the throat, from which the exudate has been removed, is carefully wiped with the second swab. This furnishes the inoculum for the culture. When the membranous material is tenacious, the first swab is run over the entire "membrane" surface in a series of short violent strokes. The second swab is then inserted at the margin of the membrane and twisted and simultaneously is pushed toward the body of the "membrane". This usually produces elevation of the "membrane" margin. The material which lies between the lowest lamina of the "membrane" and the surface of the tissue is the most desirable for culture. When elevation of the "membrane" is difficult a bacteriological loop, arranged as a hook will be found useful.

#### Transmission of Material For Penicillin Assay:

1. Three (3) ampules from each lot of Penicillin should be shipped in iced thermos container. The samples should be enclosed in a condom and the condom's opening tightly knotted.

2. Penicillin that has been hydrated should not be submitted for assay. (It is necessary to have at least three (3) samples from each lot of Penicillin in order to get an average unit value)

#### Virus and Rickettsial Diseases:

##### Serological Diagnosis:

Differential or specific diagnosis of virus and rickettsial disease



may be of greatest importance in the event of appearance of a number of cases of a disease suggestive of an epidemic among troops or civilian components of a military installation. This diagnosis can be established only by isolation of the causative agents or by demonstration of a rising titer of antibodies. The necessity for submission of initial and subsequent specimens therefore cannot be over-emphasized. Laboratory facilities are available at the Medical General laboratories for serologic diagnosis of these diseases.

#### Collection and Shipment of Specimens.

a. Blood samples for serologic diagnosis should consist of 25 to 30 c.c. and should be withdrawn with a dry sterile syringe and transferred to sterile screw capped bottles or to sterile heavy glass tubes which can be stoppered tightly. Corks or rubber stoppers should be held in place by adhesive tape. If vacuum tubes are available specimens may be forwarded directly in these tubes after breaking off the glass tubing at a point between needle and rubber stoppers. If freezing temperatures may be encountered during transit, serum should be separated from the clot whenever possible using aseptic technique. The clot may then be discarded. If whole blood is to be sent, blood should be allowed to clot firmly at room temperature before being handled.

b. Specimens should be collected as follows:

	<u>At Onset</u>	<u>10-14 Days</u>	<u>After Onset 28-30 Days</u>	<u>60 Days</u>
Influenza*	x	x		
Japanese B Encephalitis	x	x	x	x
Endemic Typhus	x	x	x	
Epidemic Typhus	x	x	x	
Scrub Typhus	x	x	x	
Other Neurotropic Virus Diseases (Incl. Polio)	x	x	x	x
Lymphocytic Choriomeningitis	x	x	x	x

\* First specimen will be held under refrigeration and shipped with the second specimen.

c. Specimens will be prepared for shipment as follows:

(1) Label each bottle or tube properly, using adhesive tape or paper label covered by transparent tape.



(2) Place bottle or tube containing specimen in a rubber covering tied at the top to keep out water. Pack carefully in a vacuum jar or suitable closed container filled with cracked ice.

(3) Address and send specimens by Railway Express Service, Air Courier Service or Courier Service. Ordinary mail will not be utilized for this purpose.

#### Isolation of Viruses and Rickettsiae.

a. In certain cases of disease of virus or rickettsia etiology it is desirable to attempt recovery and identification of the causative agent. This is particularly important in severe cases where presumably adequate vaccine prophylaxis has been given, or in fatal cases where differential diagnosis by usual serologic means has failed.

b. Virus. In order to expedite and insure proper handling, blood or spinal fluid will be transported only after telephonic or telegraphic contact with the Medical General Laboratory. A representative of the Virus and Rickettsial Division will then arrange for care and handling of the specimens.

c. Epidemic Typhus and Endemic Typhus: Blood for rickettsial isolation studies should be drawn only during the early febrile period, preferably within 2-5 days after onset of fever. Forward whole blood.

Autopsy Material: Autopsy will be performed as soon after death as possible. The following technique will be used in obtaining suitable pieces of brain tissue for animal inoculation:

a. After reflection of the scalp, towels or gauze will be used to cover and tie back the hair to keep it out of the operating field.

b. The calvarium will be thoroughly washed with alcohol, as will the instruments used in sawing through it and removing it.

c. The dura will be washed with alcohol and sterile scissors and forceps will be used to reflect it.

d. Approximately one cubic centimeter pieces of gray matter will be taken with the sterile scissors and forceps from the frontal, parietal, and occipital regions of the cortex of both sides and put into a sterile container.

e. Using the same sterile scissors and forceps to cut nerve trunks, tentorium, etc., the entire brain will be removed and placed on a sterile towel with the ventral surface up. Using the sterile instruments the following additional pieces of brain tissue will be obtained: cerebellar cortex from each side, thin slices from one side of the mid-brain, pons and medulla, and a piece of the cervical



cord. These pieces will be added to the others in the sterile container.

f. If dry ice is available, the pieces of nervous tissue thus removed should be put in a sterile tightly-rubber stoppered (held in place with adhesive) or screw cap, thick glass bottle or tube, and no liquid of any kind should be added. The bottle is to be surrounded by dry ice and immediately sent by courier to the laboratory. If there is no dry ice, the tightly closed bottle should be put in a condom which will be tied in a knot to keep out water, surrounded by cracked ice, and forwarded immediately by courier as above.

### Pathology:

Autopsies: Reference should be made to AR 600-550 and AR 40-590. Toxicological examination is required only when circumstances point to the possibility of a poison as being directly responsible for death.

### Autopsy Protocols:

a. As an autopsy is a scientific investigation, records will be objective, accurate and complete. They will be prepared in four parts.

(1) Diagnosis sheet, containing the following data: Deceased's name, grade, serial number, organization, sex, race, nativity, and length of military service; date, hour and place of death; date, hour and place of autopsy; clinical and pathologic diagnosis. When death was the result of injury, statement as to cause, date and time, place whether accidental, suicidal, or homicidal will be included.

(2) Clinical abstract, containing date of patient's admission to hospital, complaints, account of illness, personal and family history, habits, results of physical and laboratory examinations and course in hospital.

(3) Description of tissues and organs.

(4) Brief summary of findings.

b. Autopsy protocols (in quintuplicate) and tissue specimens (with paraffin blocks and tissue slides if prepared) will be sent to the designated laboratory. After completion or review the protocols and supporting materials will be forwarded to the Army Institute of Pathology by designated laboratories only.

Surgical Specimens: Accompanying surgical pathology specimens will be WD AGO Form 8-22, dated 10 July 1944 (in duplicate). These forms will be filled out completely and it is to be especially emphasized that age, color, and sex is always given. For more accurate diagnosis it is important that specimen or specimens are enumerated



giving anatomical location and a brief but accurate clinical history, including the results of all laboratory work. Indicate whether or not serological or other tests for syphilis have been done and their results.

Shipping Directions; Direct communication between the Chief of the Laboratory service of any hospital and the Medical General Laboratories is authorized.

a. Gross tissue specimens will be placed in a 10% formalin solution (one part tissue to twenty parts formalin). They will then be placed in a shipping container, with cotton and sufficient 10% formalin solution to cover the tissues. An identifying label will be placed on the outside of the glass container. The tissues will be further identified by writing the name of the individual on paper with an indelible pencil and placing this inside of the glass container.

b. Material submitted for toxicological examination will be handled as follows:

(1) Each specimen will be placed in an individual glass container, will be suitably marked and safe-handed to the laboratory.

(2) Use no preservative. If material is to be in transit more than twenty-four hours it should be packed in ice or packed with "dry ice".

(3) A full and complete history must accompany the material submitted for examination. Give the toxicologist all available information regardless of its apparent importance.

(4) Inasmuch as examination of materials not handled in accordance with the instructions above is meaningless, improperly submitted specimens will not be accepted for analysis.

### XII. Japanese X-ray Film.

There is a relative shortage of x-ray film of certain sizes made in the United States. In lieu of an adequate supply of United States film for all purposes Japanese film has been substituted. This film has not proven so far to be of the same quality as the American film. In order to obtain the best results from the Japanese film it is believed to be necessary to adopt an altered technique in its exposure and development.

In view of the difference in quality of American film and Japanese film a study was undertaken at the 28th General Hospital to determine the best technique in exposure and development of Japanese film. This table is included herewith for your information. Additional information of improved techniques gained in the use of Japanese x-ray film will be published in future issues of this circular, if reported through technical channels to the Surgeon, GHQ, FEC.



PART	POSITION	KVP	M.A. - SEC	DISTANCE	CASSETTE	GRID	CONE
HAND	AP	58	100	30"	cardboard	no	6"
	Lateral	75	100	30"	cardboard	no	6"
	Oblique	62	100	30"	cardboard	no	6"
WRIST	PA	68	100	30"	cardboard	no	6"
	Lateral	75	100	30"	cardboard	no	6"
	Oblique	72	100	30"	cardboard	no	6"
FOREARM	AP	78	100	30"	cardboard	no	6"
	Lateral	80	100	30"	cardboard	no	6"
	AP	76	100	30"	cardboard	no	6"
ELBOW	Lateral	78	100	30"	cardboard	no	6"
	Acute Flexion	84	100	30"	cardboard	no	12"
	AP	86	100	30"	cardboard	no	6"
HUMERUS	Lateral	82	100	30"	cardboard	no	6"
	AP	74	10	30"	Screen	no	6"
	Lateral	74	10	30"	Screen	no	6"
FOOT	Dorso-Plantar	70	100	30"	cardboard	no	6"
	Lateral	74	100	30"	cardboard	no	6"
	Oblique	72	100	30"	cardboard	no	6"



PART	POSITION	KVP	M.A. - SEC	DISTANCE	CASSETTE	GRID	CONE
OS CALCIS	Dorso-plantar	86	100	30"	cardboard	no	6"
	Lateral	80	100	30"	cardboard	no	6"
ANKLE	AP	76	100	30"	cardboard	no	6"
	Lateral	78	100	30"	cardboard	no	6"
	Oblique	78	100	30"	cardboard	no	6"
	AP	74	16	30"	Screen	no	3"
LOWER LEG	Lateral	74	16	30"	Screen	no	3"
	AP	75	6	30"	Screen	no	6"
	Lateral	75	6	30"	Screen	no	6"
	AP	86	16	30"	Screen	no	3"
FEMUR	Lateral	86	16	30"	Screen	no	3"
	AP	85	135	30"	Screen	yes	6"
HIP	Lateral	100	480	30"	Screen	yes	6"
	AP	85	135	30"	Screen	yes	6"
PELVIS	AP	85	135	30"	Screen	yes	--
	PA	90	225	30"	Screen	yes	6"
SKULL	Lateral	90	180	30"	Screen	yes	6"
	Occipital	90	240	30"	Screen	yes	6"



PART	POSITION	KVP	M.A. - SEC	DISTANCE	CASSETTE	GRID	CONE
NOSE	Vertical	66	60	30"	Dental	no	cylinder
	Lateral	68	120	25"	cardboard	no	12"
MANDIBLE	Lateral	88	10	25"	screen	no	6"
	Frontal	90	225	30"	screen	yes	6"
	Articulation	75	40	25"	screen	no	cylinder
MAXILLA	PA	70	120	25"	screen	no	12"
	Lateral	70	40	20"	screen	no	12"
SINUSES	Frontal	85	80	25"	screen	no	cylinder
	Maxillary	85	100	25"	screen	no	cylinder
	Sphenoid	85	120	20"	screen	no	6"
	Lateral	75	40	20"	screen	no	12"
MASTOIDS	Law lateral	85	60	25"	screen	no	cylinder
	Basal	86	125	20"	screen	no	6"
CERVICAL SPINE AP	Arcellire	70	50	20"	screen	no	12"
		85	80	20"	screen	yes	6"
	Through mouth	85	80	30"	screen	yes	6"
	Lateral	85	100	72"	screen	no	cylinder



PART	POSITION	KVP	M.A. - SEC	DISTANCE	CASSETTE	GRID	CONE
THORACIC SPINE	AP	85	120	30"	screen	yes	3"
	Lateral	95	330	30"	screen	yes	3"
LUMBAR SPINE	AP	85	210	30"	screen	yes	3"
	Lateral	90	630	30"	screen	yes	3"
	Oblique	90	510	30"	screen	yes	3"
	Spot L5	90	1020	30"	screen	yes	12"
SACRUM	AP	85	240	30"	screen	yes	6"
	Lateral	90	1020	30"	screen	yes	6"
COCCYX	AP	90	360	30"	screen	yes	6"
	Lateral	80	960	30"	screen	yes	6"
RIBS	Above diaphragm	75	60	30"	screen	yes	6"
	Below diaphragm	75	180	30"	screen	yes	6"
SCAPULA	AP	95	120	30"	screen	yes	6"
	Lateral	95	25	30"	screen	yes	6"
CHEST	PA	85	18	48"	screen	no	--
	Lateral	95	80	48"	screen	no	--
	Oblique	90	60	48"	screen	no	--



PART	POSITION	KVP	M.A. - SEC	DISTANCE	CASSETTE	GRID	CONE
GALL-BLADDER	PA	100	150	30"	screen	yes	6"
	Oblique	100	195	30"	screen	yes	6"
ABDOMEN	AP	85	150	30"	screen	yes	3"
GI SERIES	AP	95	150	30"	screen	yes	3"
	Lateral	100	420	30"	screen	yes	3"
	Oblique	100	180	30"	screen	yes	3"
BARIUM ENEMA	PA	100	150	30"	screen	yes	3"

1. The Potter-Bucky diaphragm was the grid used with all such procedures in the above data.

2. The development of Japanese film is slightly prolonged with the optimum period being approximately six minutes. Frequent spot checks are necessary during the period of development because of the variation in the emulsion on this film. The period of fixation in hypo is also prolonged with the optimum period being approximately ten minutes.



## PART III

### STATISTICAL

#### XIV. Evacuation

1. During the period 29 March 1947 to 25 April 1947, the following patients were evacuated from the several major commands:

	<u>AIR</u>	<u>WATER</u>	<u>TOTAL</u>
JAPAN	230	19	249
MARBO	22	0	22
PHILRYCOM	61	82	143
* KOREA	239	3	242

2. The following are the evacuation per 1000 strength for the period 29 March 1947 to 25 April 1947:

JAPAN	1.7
MARBO	1.2
PHILRYCOM	1.8
KOREA	4.2
THEATER	2.3

3. As of 25 April 1947 the following number of patients were awaiting evacuation:

JAPAN	504
MARBO	10
PHILRYCOM	16
KOREA	44

#### XV. Hospitalization

1. The Bed Status Report as of 25 April 1947 is as follows:

	<u>Total T/O Beds Present</u>	<u>Total T/O Beds Established</u>	<u>Total T/O Beds Occupied</u>
JAPAN	4950	4950	3923
MARBO	575	575	337
PHILRYCOM	4000	3296	1914
KOREA	2050	1518	1106
<b>Total</b>	<b>11,575</b>	<b>10,339</b>	<b>7,280</b>

\*Patients evacuated to Japan from Korea for onward evacuation.



2. The percent of T/O beds and operating beds occupied for the period ending 25 April 1947 are as follows:

	<u>Percent T/O Beds Occupied</u>	<u>Percent Operating Beds Occupied</u>
JAPAN	79	79
MARBO	51	51
PHILRYCOM	48	58
KOREA	54	73
THEATER	63	70

3. Tables showing various admission rates are listed below:

ADMISSION RATES PER 1000 PER ANNUM

<u>Week Ending</u>	<u>THEATER</u>	<u>MARBO</u>	<u>PHILRYCOM</u>	<u>JAPAN</u>	<u>KOREA</u>
4 April 47	836	318	496	1091	820
11 April 47	805	279	633	992	739
18 April 47	816	444	591	996	793
25 April 47	819	333	583	876	800

	<u>Disease</u>				
4 April 47	771	242	449	1017	753
11 April 47	735	179	581	916	671
18 April 47	730	327	520	903	716
25 April 47	750	257	526	802	728

	<u>Injury</u>				
4 April 47	65	75	47	74	67
11 April 47	69	100	52	72	67
18 April 47	86	117	71	93	76
25 April 47	69	75	57	74	72

	<u>Psychiatric</u>				
4 April 47	13	6	11	14	17
11 April 47	12	2.9	15	12	8
18 April 47	13	8	13	16	7
25 April 47	11	2.8	12	12	11

	<u>Organic Neurological Disease</u>				
4 April 47	.5	0	1.3	.4	0
11 April 47	.7	0	.7	.7	0
18 April 47	.5	0	1.3	.4	.9
25 April 47	.4	0	.7	.4	0

# ADMISSION RATES PER 1000 PER ANNUM

## Common Respiratory Disease

<u>Week Ending</u>	<u>THEATER</u>	<u>MARBO</u>	<u>PHILRYCOM</u>	<u>JAPAN</u>	<u>KOREA</u>
4 April 47	256	19	50	344	381
11 April 47	200	9	66	259	292
18 April 47	184	31	58	253	230
25 April 47	162	19	64	202	241

## Influenza

4 April 47	7	3	0	12	5
11 April 47	8	5.8	0	13	7
18 April 47	5	0	0	7	8
25 April 47	5	0	2.1	7	7

## Primary Atypical Pneumonia

4 April 47	14	0	5	11	36
11 April 47	12	9	3.4	11	29
18 April 47	11	11	5	9	22
25 April 47	10	11	2.1	7	29

## Common Diarrhea

4 April 47	8	0	13	2.9	15
11 April 47	6	0	15	2.2	5
18 April 47	4	0	9	2.6	2.7
25 April 47	7	0	16	1.9	10

## Bacillary Dysentery

4 April 47	.5	6	.7	0	0
11 April 47	2.3	5.8	7.0	0	.9
18 April 47	.2	0	.7	0	0
25 April 47	.8	0	2.8	0	0

## Amebic Dysentery

4 April 47	1.0	0	4	0	0
11 April 47	1.8	0	5	0	1.8
18 April 47	1.6	0	5	0	1.8
25 April 47	3	0	10	.8	0

## Malaria

4 April 47	11	6	41	.8	0
11 April 47	8	15	24	1.4	.9
18 April 47	9	5	28	1.1	4.5
25 April 47	10	2.8	33	1.2	3



# ADMISSION RATES PER 1000 PER ANNUM

## Infectious Hepatitis

Week Ending	THEATER	MARBO	PHILRYCOM	JAPAN	KOREA
4 April 47	3.0	6	1.3	5	.9
11 April 47	2.5	0	7.0	.7	.9
18 April 47	1.2	2.8	2.7	0	1.8
25 April 47	3.5	2.8	7.7	2.4	.9

## Mycotic Dermatoses

4 April 47	2.8	0	6.0	2.6	0
11 April 47	5	0	13	4.1	.9
18 April 47	6	0	13	3.7	2.7
25 April 47	4	0	7.7	4.1	3

## Venereal Disease

4 April 47	71	28	74	84	50
11 April 47	88	0	106	102	55
18 April 47	102	34	131	97	97
25 April 47	90	19	106	90	78

## Common Diarrheas

4 April 47	773	242	644	700	657
11 April 47	735	179	501	516	4
18 April 47	730	327	520	500	11
25 April 47	750	252	524	509	18

## Injury

4 April 47	65	75	47	74	78
11 April 47	69	100	52	72	4
18 April 47	66	117	71	63	11
25 April 47	69	75	57	74	18

## Psychiatric

4 April 47	13	6	11	14	17
11 April 47	12	2.2	15	10	4
18 April 47	13	8	13	16	11
25 April 47	11	2.8	12	12	18

## Organic Neurological Disease

4 April 47	5	0	1.3	4	0
11 April 47	7	0	7	7	4
18 April 47	5	0	1.3	8	11
25 April 47	4	0	7	4	18